IV. CENTER OPERATIONS: VOCATIONAL EDUCATION

The cornerstone of the Job Corps program is center operations, and the three pillars of center operations are vocational education, academic education, and residential living. The vocational education program aims to provide young men and women with the occupational skills necessary to obtain a job that will start them on a promising career path. This chapter describes the vocational education component of center operations.

We first present the philosophy and broad operational guidelines of the program. Drawing on data from the 23 center visits and the center mail survey, the next three sections describe the organization of the program, the occupational areas available in Job Corps, and the relevance of Job Corps' training to today's labor market and the experiences of recent Job Corps terminees. The last six sections describe specific elements of the program, focusing on the Occupational Exploration Program (OEP), the assignment of students to particular trades, the scheduling of students' training, Vocational Skills Training (VST) projects, the Work Experience Program (WEP), and advanced training programs.

A. PHILOSOPHY OF JOB CORPS VOCATIONAL PROGRAMS

From its inception, Job Corps vocational and academic programs have used an open-entry, open-exit approach that permits students with varying skill levels to enter classes at different times and then to progress at their own pace. While this operating guideline creates logistical challenges, it accommodates the wide range of skills and learning styles of Job Corps students. This design allows Job Corps to provide individualized competency-based training that develops the specific skills, knowledge, and attitudes necessary for job placement.

A second guiding principle of the vocational education program is its emphasis on "hands-on" learning and "learning by doing" in all occupational areas. Vocational training is provided through a combination of classroom instruction and instructor-guided hands-on experiences. Classroom instruction covers safety practices, reading of occupation-specific technical materials, and lectures on occupational practices. It often involves applying academic skills to the trade: for example, the classroom component in carpentry makes extensive use of applied math necessary for routine tasks, such as taking measurements, reading blueprints, and estimating quantities of materials.

Guidelines specify that over 70 percent of vocational instruction time should be devoted to hands-on experiences through in-classroom simulations of occupational practices, VST projects, and, to the extent possible, WEP placements. Classroom simulations of actual work-related tasks are performed under the direct supervision of the instructor. For instance, to master specific techniques, students in bricklaying will build a brick wall, dismantle it, and then reconstruct it. VST projects entail construction or renovation of facilities on centers or other public lands, and they typically involve several trades. For example, as part of a VST project to refurbish living quarters, carpentry students will erect walls, floor-laying students will install the floor, and students in painting will paint the walls. WEP placements enable students in health, clerical, retail sales, other trades involving delivery of services, and in some cases construction trades, to gain hands-on experience in a workplace setting under the supervision of an employer.

The third defining feature of the Job Corps vocational education program is its emphasis on competency-based instruction. Each program follows a prescribed plan of activities as outlined in student activity guides (SAGs). Each SAG also includes criterion-referenced measurements that are used to describe and verify student competencies in each of the skills required of an entry-level position in an occupation. Job Corps develops SAGs with extensive input from business, industry,

and labor organizations. The instructor documents each student's progress in achieving occupational competencies in the Training Achievement Record (TAR). The TAR for each trade is a checklist of the competencies deemed essential by business, industry, and labor organizations for successful performance of the duties of different occupations. The TAR is used to certify a student leaving vocational education as a trainee, a completer, or an advanced completer, each category representing a progression of competencies that higher-skilled jobs in an occupational area require.

Finally, the Job Corps vocational program emphasizes the involvement of business, industry, and labor organizations. As noted, representatives from these organizations help develop and refine the SAGs and the TARs, which constitute the core of the program. In addition, each Job Corps center must establish and maintain an active Vocational Advisory Committee made up of representatives of the local employer, labor, and vocational training communities to advise the center director about the operation of a center's vocational programs.

B. ORGANIZATION OF VOCATIONAL EDUCATION PROGRAM

Job Corps center operators provide both the facilities and the instructors for most vocational training. In this situation, a vocational manager, usually reporting directly to the center director, is responsible for hiring, training, and supervising instructional staff and for allocating budgets for equipment and materials in the various trades. Vocational education is provided as part of the center operator's contract. However, two other arrangements for delivering vocational training are used extensively in Job Corps.

First, the National Office contracts with several national organizations to provide instructors in selected vocations. Training is provided in center facilities, but the vocational instructors are employees of the national contractor rather than of the center operator. These national contractors, mostly trade union organizations, include the United Brotherhood of Carpenters and Joiners of

America, the International Masonry Institute, the National Plasterers and Cement Masons International Association, the International Brotherhood of Painters and Allied Trades, the United Auto Workers, the International Union of Operating Engineers, the Home Builders Institute, the Transportation-Communication International Union, and the Appalachian Council of the AFL/CIO. These organizations provide instructors in building and apartment maintenance, carpentry, electrician, floor laying, heavy equipment operation, masonry, painting, plumbing, and welding. The national contractor instructors are generally craftspersons with substantial experience and knowledge of industry practices. Both contract centers and CCCs have trades taught by one of the national contractors. The mix of center-operated and national contractor-operated trade offerings varies widely.

National training contractors provide skilled instructors, strong linkages to industry, and national networks that create job placement opportunities for students. However, center staff reported that having instructors employed by someone else often created operational difficulties for the center. For example, if an instructor is having performance problems, the center operator can discuss the matter directly with the instructor, but only the national contractor has the authority to take personnel actions. The lack of direct management control leads to some unresolved difference of opinions between instructors and center administrators in decisions about how to use VST funds to balance the training benefits to students and enhance the center facility. Differences in employee compensation also pose issues. Most national training contractor employees are union members who receive union wages and benefits, whereas center employees are not necessarily union members. Therefore, vocational instructors with similar levels of skill and experience can receive very different compensation, resulting in tensions between staff and administrators and among vocational instructors.

Center administrators said the use of national contractors hindered their ability to manage their centers effectively. Many suggested that better coordination between the National Office and regional offices and the establishment of a mechanism for center operators and national contractors to address these problems cooperatively would help to improve the relationship between center operators and national contractors.

A second, less widely used, arrangement for providing vocational education is contracting with an off-center training supplier for both the facilities and instructors in one or more areas. This approach has become more prevalent in recent years.[1] Overall, about 1 in 10 trades is offered by an off-center training provider, although the percentage of all slots offered off center is just under two percent. A great deal of variation across centers exists in the use of this arrangement: while virtually none of the CCCs use it, over 20 percent of the occupational training courses at private, significantly nonresidential centers are offered through off-center programs.

Staff at centers using off-center training providers reported that the key benefit is to give students access to a broader range of vocational offerings than the center is able to provide. One urban center contracts with a local public education agency for a specified number of training positions at a local vocational-technical institute, and the center's students may enroll in any of the wide array of vocational programs that have an opening. Another primary reason to use outside trainers is to provide students access to advanced career-training opportunities at local community colleges and technical institutes.

[1]The increase in off-center training represents a significant shift from the original design of Job Corps, particularly at centers with nonresidential students, where the student may not live at the center and may receive vocational training off center as well. In these instances, however, nonresidential students typically receive Job Corps academic education services, counseling, and other services on center.

While the use of off-center training providers expands opportunities for students, scheduling of vocational classes often is a problem. Many of the off-center programs do not mesh with the open-entry, open-exit structure of Job Corps. Community colleges, for example, generally follow a regular academic schedule, with classes beginning and ending on fixed dates. Centers have accommodated these rigid schedules by rescheduling other required activities to permit students to enroll in outside training programs.

C. VOCATIONAL EDUCATION AREAS

Job Corps offers vocational education in approximately 75 trades nationwide. The specific offerings at a center are based on the potential for placing both male and female students in entry-level jobs related to their training and likely to lead to upward mobility. Each center offers a much smaller number of trades (10 to 11 on average), with considerable variation across types of centers and across individual centers.[2] On average, CCCs offer 8.4 occupational trades per center, private primarily residential centers offer 11.5, and significantly nonresidential centers offer 9.3.

Most vocational instruction (over 95 percent) is provided in 22 broad occupational areas. Table IV.1 shows all the trade groupings that contained at least 100 training slots nationwide at the time of the study. The number of slots represents the potential number of Job Corps students who can be enrolled and participating in the corresponding vocational training program on any given day.[3] Several specific vocational trades have been combined in this table into a broader grouping of

[2]At the center level, one satellite center offers only one occupational training area (business clerical occupations) to a narrowly defined population of nonresidential students--almost exclusively single mothers--in a major metropolitan area. At the other extreme, a large contract center offers 26 trades. At CCCs, the number of offerings ranges from 6 and 12 trades, while at most contract centers the number ranges from 5 to 20.

[3]The number of training slots is not the same as center capacity, because not all students are enrolled in a vocational trade on any given day (for example, students are not assigned a vocational trade until after orientation).

TABLE IV.1

JOB CORPS VOCATIONAL TRADE OFFERINGS WITH 100 OR MORE TRAINING SLOTS

Vocational Training Area	Number of Slots	Percentage of Slots
Clerical Occupations	7,435	19.7
Health Occupations	4,642	12.3
Carpentry	3,168	8.4
Masonry	2,932	7.8
Building and Apartment Maintenance	2,775	7.4
Food Service	2,569	6.8
Mechanic	2,182	5.8
Welding	2,153	5.7
Painter	1,594	4.2
Electrician Trainee	1,227	3.3
Salesperson	998	2.6
Forestry/Landscaping	749	2.0
Plumber	671	1.8
Computer Support Specialist	519	1.4
Computer Operator	480	1.3
Security Officer	436	1.2
Heavy Equipment Operator	392	1.0
Lithographic Printer	332	0.9
Hotel Clerk	255	0.7
Child Day Care Center Worker	142	0.4
Dispensing Optician	120	0.3
Floor Layer	100	0.3
Advanced Career Training	483	1.3
Off-Center Training, Unknown	657	1.7
All Other Trades	691	1.8
All Vocational Areas	**37,702**	

SOURCE: National Job Corps Study Center Mail Survey.

occupational training areas for presentation purposes. For example, auto repair technician and diesel mechanic are grouped together in the occupational area labeled mechanic.

Clerical occupations is by far the largest vocational training area in Job Corps, with 7,435 training slots (20 percent of available slots), followed by health occupations, with 4,642 slots (12 percent). There are 483 advanced career training slots and 657 available off-center training slots that represent a number of different trades, depending upon the particular advanced or off-center program students choose. In addition, the remaining 30 or so other trades with less than 100 training slots total 691, or about 2 percent of the total available training slots.

D. ENSURING THAT JOB CORPS VOCATIONAL TRAINING MEETS EMPLOYER NEEDS

Job Corps seeks to prepare students for entry-level jobs that offer avenues for advancement in their field. Achieving this objective requires that training be offered in occupations for which employers need entry-level workers. This section describes how Job Corps updates training offerings and ensures that the curriculum and facilities used in each trade are appropriate. To provide insights on the areas in which Job Corps offerings are likely to increase and decrease, we also present data comparing the number of Job Corps slots with projections of job openings and recent placement rates in various trade areas.

1. Updating Vocational Offerings

Center operators are expected to review vocational education offerings periodically. If they determine that a vocational offering should be added or deleted, the center director requests a trade change from the regional office and provides documentation supporting the need for the change, the feasibility of it, and the costs. If the regional office agrees, it forwards the request to the National Office, which must approve all increases and decreases in the number of slots offered at each trade

at each center. This process applies only to the center-operated trades. The National Office decides how many vocational training slots each national contractor will offer at each center. Center directors have a lesser role in determining the number of national contractor slots that will be offered at their center, since the number must be negotiated with the contractor and national office.

Center vocational managers told us how they assessed the need for changes in vocational education offerings. The most widely cited factor is the placement rate of students. If it is unacceptably low in a trade, the vocational manager will consider proposing to reduce or delete the trade. Many vocational managers also cited labor market surveys or information from the vocational advisory committee about changes in the labor market as sources of information that could prompt consideration of deleting a trade or reducing the number of slots. Information from formal and informal labor market surveys is also considered in selecting new trades, as is student interest. Some managers also cited as an important consideration their staff's judgments about the potential for students to complete the course successfully. For example, one vocational manager mentioned that ensuring a mix of trades with varied skill levels (some challenging, some less challenging) was a very important consideration in proposing to add or delete a trade. Another said the center had dropped automechanics because academic requirements had become more stringent as the trade became more automated, and students were no longer able to complete it successfully. Several respondents also mentioned the need to find trades that appeal to young women as considerations in assessing their offerings. Finally, the availability and cost of facilities and equipment to teach a new trade are a major factor considered by reviewers of proposals at all levels of the process.

Vocational advisory groups appear to play a limited role in identifying new trades. Although a few respondents mentioned specific examples in which the groups had influenced the center's decision, most reported little committee involvement in this area. One center offered as an

explanation the fact that because the vocational advisory committee was drawn from the local area, whereas students came from urban centers several hundred miles away, the committee members did not know much about the labor markets to which students would be returning. This same consideration is likely to apply for most CCCs and many primarily residential centers. Overall, the interviews suggest that the vocational advisory committees play a significant role in ensuring that up-to-date techniques are taught, that equipment needs are identified, and that work experience slots are arranged, but that their role in adjusting trade offerings is small.

The recent experience of the centers we visited indicates that the process of changing vocational offerings--especially initiating training in trades not previously taught at a center--moves very slowly. A small fraction of the centers we visited had recently added a new vocational offering. Just less than one-fifth reported that they had recently stopped offering certain trades and had added one or more new ones. The same percentage said they had dropped poor-performing trades but had increased the number of slots in existing courses rather than opening new courses to take the place of the ones that were closed. Several centers either were planning to request adding and deleting specific trades or had done so in the recent past, but the Job Corps regional offices had rejected their proposal. Indeed, one center that had started a new trade reported that the regional office had rejected six other proposed changes. The trades added included auto body repair, retail sales, health occupations, business clerical, security, and hotel clerk. The trades that respondents were considering adding included masonry, plastering, computer repair, dental assistant, retail sales, and "gaming." The vocational offerings deleted were for security, masonry, horticulture, heavy equipment, cement finishing, welding, metal fabrication, telecommunications, auto mechanic, groundskeeper, and appliance repair. About 40 percent of the centers we visited neither had changed their trade offerings recently nor stated an intention to change them soon.

Vocational managers identified several obstacles to changing trade offerings, some that were programmatic. Several emphasized that adding a trade requires extensive documentation of need, feasibility, and cost-effectiveness. Applications must be reviewed and approved at the center director, corporate, regional office, and National Office levels--a process than can take up to three years. The extensive documentation and long approval process made center staff disinclined to pursue changes. In centers where national contractors and center-based trades are both offered, the slowness to change national contractor trades indirectly slows change in center-offered trades. One vocational manager said that placing the trades offered by the national contractors outside the review process made it difficult to eliminate poorly performing center-offered trades when similarly poorly performing national contractor trades were "untouchable." The reports of these managers suggest a strong and widely held perception that altering existing trade offerings is difficult.

2. Projected Future Openings in Current Job Corps Trades

To gauge the extent to which Job Corps' vocational training programs correspond to the occupations that are likely to be in high demand in the near future, we compared the projected annual number of entry-level openings in trades for which Job Corps trains with the current number of slots open. Occupational projections for the nation and nearly all states covering the period 1994 to 2005 were obtained from America's Labor Market Information System (ALMIS).[4]

To provide a meaningful comparison, we first identified all occupations in the ALMIS projections that correspond to the skill and training level of Job Corps students. A listing of the 50

[4]The occupational projections database we obtained from ALMIS contained projections for the United States overall and separately for 47 states and the District of Columbia. ALMIS did not contain occupational projection data for Indiana, New York, Texas, or Puerto Rico. To develop a more complete picture of the occupations that are likely to be in high demand over the next several years, we supplemented the ALMIS data with state-level occupational projections from Indiana (covering the period 1990 to 2005), New York (1995 through 1998), Texas (1993 through 2000), and Puerto Rico (1994 through 2005).

occupational titles with the highest average annual number of job openings that best match the skill and training levels of Job Corps students is presented in Appendix Table B.17.[5] We then applied the same rules Job Corps uses for determining whether students' placements are a job-training match in order to connect each Job Corps vocational training area with the appropriate ALMIS occupation.[6] Table IV.2 shows, for the 22 Job Corps occupational training areas with 100 or more training slots, as reported in Table IV.1, the estimated average annual number of job openings (AANJO) nationwide in all matched occupational titles from ALMIS, as well as the percentage of the projected annual number of job openings represented by Job Corps training slots. These 22 Job Corps occupational training areas have 35,871 training slots, while the corresponding occupational titles are projected to have 1,630,160 job openings per year. If Job Corps trained one student per year in each training slot, students trained in these areas would represent 2.2 percent of the total number of job openings in related occupations. We use this measure of Job Corps slots as a percentage of projected openings to assess which occupations might warrant expansion and which might encounter difficulties placing students.

The data in Table IV.2 present a mixed picture of the match between the vocational training areas offered by Job Corps and the projected annual number of openings for entry-level workers.

---

[5]This listing of occupations was developed after excluding all occupational titles that were classified as requiring an associate's degree or higher as the minimal level of training from the ALMIS database, under the assumption that Job Corps students could not qualify for openings in these occupations without further education or training.

[6]The Job Corps process for determining a job-training match relies on an established relationship between the Dictionary of Occupation Title (DOT) codes and the codes for vocational programs contained in the U.S. Department of Education's Classification of Instructional Programs (CIP). The occupational codes reported in the ALMIS projections were translated into OES codes with the crosswalk between DOT and OES codes that was developed by the National Occupational Information Coordinating Committee (NOICC). We carefully examined the results from applying this crosswalk and deleted any potential mismatches between the DOT codes and corresponding OES before calculating the average annual number of job openings reported here.

TABLE IV.2

PROJECTED AVERAGE ANNUAL NUMBER OF JOB OPENINGS IN RELATED OCCUPATIONS FOR JOB CORPS VOCATIONAL TRADE OFFERINGS WITH 100 OR MORE TRAINING SLOTS

Vocational Training Area	Average Annual Number of Job Openings (AANJO)	Job Corps Training Slots as a Percentage of AANJO
Clerical Occupations	278,410	2.7
Health Occupations	122,390	3.8
Carpentry	26,350	12.0
Masonry	31,000	9.5
Building and Apartment Maintenance	149,770	1.9
Food Service	220,290	1.2
Mechanic	61,070	3.6
Welding	10,490	20.5
Painter	38,780	4.1
Electrician Trainee	35,630	3.4
Salesperson	366,880	0.3
Forestry/Landscaping	23,160	3.2
Plumber	30,230	2.2
Computer Support Specialist	12,000	4.3
Computer Operator	7,340	6.5
Security Officer	77,360	0.6
Heavy Equipment Operator	17,260	2.3
Lithographic Printer	4,480	7.4
Hotel Clerk	63,660	0.4
Child Day Care Worker	29,210	0.5
Dispensing Optician	2,580	4.7
Floor Layer	21,820	0.5

SOURCE: Data on occupational projections are from ALMIS. Data on Job Corps training slots are from the National Job Corps Study Center Mail Survey.

A large number of job openings is projected in several of the vocational training areas offered by Job Corps, and students trained in these areas would fill only a small percentage of the expected annual number of job openings. The clerical occupations, health occupations, building and apartment maintenance, food service, and salesperson areas are all expected to have over 100,000 job openings during each of the next several years. The number of training slots in Job Corps represents less than four percent of the projected AANJO in each of these high-demand occupations. In addition, the number of Job Corps training slots in security officer, hotel clerk, child day care worker, and floor layer represents less than two percent of the projected AANJO.

Some of Job Corps' larger vocational training areas are expected to have limited numbers of job openings over the next few years. Welding, computer support specialist, computer operator, lithographic printer, and dispensing optician are all expected to have fewer than 20,000 job openings per year nationwide. In addition, if placed in a related job, the Job Corps students trained in several of the larger training areas would need to fill a relatively large percentage of the total number of job openings. For example, the more than 2,000 training slots in Job Corps welding programs represent more than 20 percent of the expected AANJO in related occupations that require less than an associate's degree. Similarly, the number of training slots in carpentry, masonry, computer operator, and lithographic printer all represent more than 5 percent of the projected AANJO in related occupations.

We also examined vocational training slots relative to projected job openings at regional and state levels, and found very similar patterns (see Appendix Tables B.18 and B.19).

The data presented in Table IV.2 and in the appendix indicate that in a number of Job Corps vocational offerings, projected demand is low relative to the numbers of students that Job Corps trains. Welding, carpentry, masonry, lithographic printer, computer operator, computer support

specialist, and dispensing optician follow this pattern. The data also indicate that Job Corps could expand the number of training slots in building and apartment maintenance, food service, sales, security officer, hotel clerk, child day care worker, and floor layer, trades in which the number of training slots is less than 2 percent of projected AANJO. Interestingly, the recent changes in trade offerings that were made (or considered) at the centers we visited are broadly consistent with the directions suggested by this analysis.

3. Placement Rates by Vocational Training Area

The Job Corps performance measurement system uses rates of placement and rates of placement into training-related jobs as important measures for assessing center operators' and placement agencies' performance. In this section, we compare rates of placement and rates of placement into training-related jobs across vocational training as indicators of how the various trades are performing. These data complement those presented in the past section on projected openings. Table IV.3 presents, for all terminees enrolled in the corresponding vocational training area, the percentage of program year (PY) 1996 terminees who were reported in SPAMIS to have been placed in a job, the percentage who were placed in a training-related job, and the relative rankings of the trades on each measure.

Before discussing the data in this table, we must caution about some potential limitations of the comparison. First, comparing placement rates across trades does not take into account differences in the abilities and qualifications of students enrolling in the different trades. To the extent that students enrolled in some trades are more able than students in others, comparisons of placement rates across trades do not fairly reflect the value added of the different trades. Second, SPAMIS data on job-training matches are collected and entered by people who have a stake in the outcomes, and these data have not been subjected to independent third-party assessment. Although Job Corps uses

TABLE IV.3

PLACEMENT RATES AND JOB TRAINING MATCHES FOR JOB CORPS VOCATIONAL TRADE OFFERINGS WITH 100 OR MORE TRAINING SLOTS
(Percentage)

	Percentage of Program Year 1996 Terminees		Rank Among Trades in	
Vocational Training Area	Placed in a Job	Placed in a Related Job	Percentage Placed in a Job	Percentage Placed in a Related Job
Clerical Occupations	70.1	49.8	16	8
Health Occupations	72.5	40.6	10	15
Carpentry	75.0	51.8	5	4
Masonry	70.6	46.6	15	10
Building and Apartment Maintenance	71.8	50.4	12	7
Food Service	69.2	52.9	18	2
Mechanic	73.3	43.9	8	14
Welding	74.0	45.4	7	12
Painter	71.9	46.2	11	11
Electrician Trainee	74.9	50.6	6	6
Salesperson	71.3	51.5	13	5
Forestry/Landscaping	72.9	40.4	9	16
Plumber	75.9	52.9	4	3
Computer Support Specialist	61.0	36.6	22	19
Computer Operator	68.2	53.6	19	1
Security Officer	77.0	32.7	3	22
Heavy Equipment Operator	78.1	48.4	1	9
Lithographic Printer	71.1	34.0	14	21
Hotel Clerk	63.7	44.1	20	13
Child Day Care Worker	69.5	34.8	17	20
Dispensing Optician	77.9	36.9	2	18
Floor Layer	63.3	38.3	21	17

SOURCE: Tabulations of data from Job Corps SPAMIS.

NOTE: Program Year 1996 is the period July 1, 1996, to June 30, 1997.

well-defined criteria that map DOT codes for the job to vocational-training areas, the DOT code entered in SPAMIS is entered by a placement agency staff member who talked with former students or employers about the nature of the job. The decision about which DOT code applies to the job necessarily requires judgment by the placement agency staff. At the same time, the agency's performance is assessed in part through the percentage of students who obtain a job related to their training. For this reason, the information reported in SPAMIS may overstate the number of training-related placements and may do so to differing (but unknown) degrees for different vocational-training areas.

As Table IV.3 shows, the rankings of the various trades differ markedly according to whether placement in a job or placement in a training-related job is the criterion. While this pattern is not surprising given the two performance measures are specifically designed to measure different dimensions of contractor performance, it does limit our ability to draw conclusions about the strength of the trades, since it is not clear which measure should be used when the two measures diverge. Interestingly, several trades stand out as ranking above the median on both placement measures (heavy equipment operator, plumber, electrician, carpentry) and several stand out as ranking below the median on both measures (lithographic printer, child day care, hotel clerk, floor layer, and computer support specialist). A few trades show high rates of placement in training-related jobs but low rates of placement overall (clerical, food service, sales, and computer operator). A few show low rates of placement in training-related jobs but high rates of placement overall (dispensing optician, security officer).

The data on placements confirm some of the directions suggested by projections on job openings and contradict others. Data on job openings suggested that Job Corps was training too many students in the areas of lithographic printer computer and support specialist, and these trades have low

placement rates. Job openings for dispensing opticians also are limited, and while rates of placement in training-related jobs are low, overall placement rates are high. Similarly, the data on projections suggested ample opportunities in building and apartment maintenance, food service, and sales, and the data on training-related placements support this (although overall placements in these trades are relatively low).

The data placements also contradict some of the findings on the number of job openings. Although Job Corps appears to be training a large percentage of new entry-level workers in carpentry, masonry, and welding, these trades have relatively low numbers of openings but high training-related placement rates; indeed, carpentry has one of the four highest rates. Moreover, child day care workers and security officers have some of the lowest rates of job-training match (and overall placement), although the data on projected openings suggested that these vocational areas were good candidates for expanding Job Corps offerings.

There are several possible explanations for the divergent findings on openings and placement rates. First, placement agencies may have well-established relationships with employers in the occupational areas where Job Corps has historically provided training. Indeed, national training contractors provide instructors in several of the trades with high placement rates--heavy equipment operators, plumbing, carpentry, electrician, and welding--and these contractors may have better than average opportunities to place their students in related jobs through existing industry or union relationships. Second, differences in placement rates may reflect differences in the ability of students enrolling in the various trades.

4. Center Administrators' Perceptions About Whether Vocational Training Equipment and Materials Meet Industry Standards

The extent to which Job Corps' vocational training offerings meet current labor market needs also depends on whether the training meets industry standards for entry-level workers. While the Job Corps process study did not attempt to assess the overall quality of specific vocational training offerings, we attempted to collect, through the survey, center staffs' perceptions about the relative strength of one dimension of training quality. In particular, we asked centers whether the equipment and materials used in each trade meet current industry standards. Responses indicate that, overall, center staff believe that almost 93 percent of their vocational offerings have equipment and materials that meet current industry standards for training programs in the relevant occupations.

Table IV.4 shows the vocational education areas that center staff identified as not meeting current industry standards for equipment and materials. A small, but noteworthy, percentage of centers offering the largest trades in Job Corps are using equipment and materials that do not meet industry standards, including clerical occupations (13 percent), health occupations (4 percent), carpentry (5 percent), building and apartment maintenance (3 percent), and food service (6 percent). Some of the training areas listed in this table also correspond to the occupational areas that are expected to have high levels of demand over the next few years--such as clerical occupations, health occupations, food service, salesperson, security officer, and hotel clerk. To exploit the labor market for these occupations, Job Corps will need to invest in up-to-date equipment and materials.

E. OCCUPATIONAL EXPLORATION PROGRAM (OEP)

The OEP is designed to expose new students to the full range of vocational offerings available at the center soon after enrollment so that they can select a trade during their first few weeks on center. OEP helps students examine their occupational interests, assess their abilities to perform the

TABLE IV.4

VOCATIONAL TRAINING AREAS IN WHICH CENTER STAFF BELIEVE EQUIPMENT AND MATERIALS DO NOT MEET CURRENT INDUSTRY STANDARDS

Training Area	Percentage of Centers Offering Trade That Report Equipment and Materials Do Not Meet Standards
Clerical Occupations	13
Health Occupations	4
Carpentry	5
Masonry	1
Building and Apartment Maintenance	3
Food Service	6
Mechanic	4
Welding	2
Painter	4
Electrician Trainee	3
Salesperson	19
Forestry/Landscaping	0
Plumber	0
Computer Support Specialist	0
Computer Operator	0
Security Officer	6
Heavy Equipment Operator	0
Lithographic Printer	15
Hotel Clerk	11
Child Day Care Worker	0
Dispensing Optician	0
Floor Layer	0

SOURCE: National Job Corps Study Center Mail Survey.

tasks required in each vocational training area, explore the job opportunities within each vocational area, and, taking these three factors together, make an informed career training choice. All new students must participate in OEP, except for the small number who are referred directly to Job Corps by one of the national training contractors.

The 23 centers visited for the process study used a variety of approaches to help students assess their occupational interests. Nearly all the centers we visited were using one of several commercially available interest assessment tools, such as the Career Orientation Placement and Evaluation Survey, the Career Ability Placement Survey, and the Pictorial Interest Exploration Survey. However, nearly all OEP staff expressed dissatisfaction with these tools, questioning both whether they were appropriate given the reading level of many Job Corps students and whether they justified the time required to administer them. OEP instructors expressed interest in learning more about computer-based occupational interest assessment tools, but most believed the National Office would need to exercise leadership if these tools were to be adopted.

As part of OEP, students receive an overview and tour of all the trades offered at their center. First, all vocational training instructors make presentations describing the content of each occupational training area and giving information about jobs that students in these areas enter. Structured hands-on experience in a small number of trades follows, in preparation for vocational counseling and personal goal-setting. Structured hands-on experience helps students understand what knowledge, skills, and attitudes are necessary for success.

OEP staff use the results of the formal assessments, as well as observation of student performance during hands-on activities, to assist students in making appropriate selections. OEP culminates in preparation of an individual employability development plan (EDP) that is updated over time.

OEP generally lasts from 8 to 14 days in most centers (73 percent), although shorter and longer periods are used in some centers. Almost two-thirds of Job Corps centers reported that students usually engage in structured exploration of three trades, with another 27 percent reporting that students usually explore four trades and 9 percent reporting only one or two trades. More than half of centers (55 percent) report that students spend more than eight hours in hands-on experience per trade explored. Ten percent of centers report six to eight hours of hands-on experience per trade, 17 percent report four to six hours, and 19 percent report less than four hours. For the most part, student choice guides the selection of which trades to explore through the structured hands-on experience, although 20 percent of centers overall reported that staff guidance was the primary mechanism for choosing vocations to explore.

F. ASSIGNMENT TO VOCATIONAL TRAINING AREAS

At the completion of OEP, students are assigned to a vocational training area, typically within two weeks after arrival at the center. Forty-one percent of all centers reported that vocational training begins within two weeks, with an additional 34 percent of centers reporting that it begins within three weeks. The remaining 25 percent reported that it starts more than three weeks after students arrive. In all centers, students are placed in a specific vocational trade no later than 30 calendar days from the date of arrival.

Each student's assignment to a vocational trade depends on several factors: the student's preference, staff's assessment of the student's abilities, entry requirements of specific trades, and availability of space. The center survey indicates that centers are about evenly split in the weight they give to student preferences and staff guidance in assigning a student to a trade. Just over half (57 percent) report that student preferences are the primary determinant of the vocational trade assignment, and just under half (43 percent) report that staff primarily guide students in their

selection. Over 90 percent said that staff advise students to select another trade if they believe the student would not do well in the occupational area initially selected.

Trade-specific entry criteria may also prevent students from entering their preferred trade. The center, national training contractors, and off-center training providers all may set criteria for specific trades. Centers report that 27 percent of the trades they offer require a student to meet at least one criterion to enroll in the trade. The use of entry criteria varies across centers, with some not using entry criteria for any of their trade offerings and one that reported having entry criteria for every offering. The use of entry criteria varied across centers for the same trade; some trades had entry criteria at one center but not at others.

These trade-specific entry requirements typically include minimum age, absence of certain medical conditions, minimum math and reading scores on the Test of Adult Basic Education (TABE), high school diploma or GED, driver's license, and approval by the trade union. Although the specific entry criteria for any given trade can vary across centers, they were very similar at most centers that applied them. For example, construction-related trades, such as carpentry, masonry, painting, and welding, often imposed both an age restriction (no students under 17) and a minimum-score requirement in reading and/or math on students' initial TABE. At the 23 centers visited, off-center training providers were more likely to impose entry requirements related to reading and math abilities or a high school diploma or GED.

In an open-entry, open-exit system, maintaining a balance between the number of new students wanting to enter a trade and the number of slots becoming available is a constant challenge. Inevitably, some students wish to enter trades that are already filled to capacity. In these situations, centers place students on a waiting list. Over 90 percent of all centers reported using waiting lists, and 12 percent of trades were reported to have a waiting list of four weeks or longer (with an average

of eight weeks). The vocational training areas most commonly reported to have waiting lists are clerical occupations, health occupations, food service, building and apartment maintenance, carpentry, and other construction-related trades. Although some centers informed students of waiting lists before they arrived (for example, through screeners, pre-arrival telephone calls, or the introductory letter), most reported that students learned about specific waiting lists after coming to the center, usually during orientation or OEP.

Centers with waiting lists for trades used different approaches for making sure students' training time during the wait was productive. Most centers (78 percent) reported that students usually enrolled in their second choice or another trade if their first-choice trade was full. The remaining 22 percent said that students were allowed to wait for their first choice by filling their class schedule either with other required classes or with "make-work" activities. Among the 23 site visit centers that permitted students to wait, this option seemed to depend on the length of the expected wait for a training slot. Some centers allowed students to wait if the period was expected to be no more than one or two weeks, while others allowed students to wait four to six weeks. A small number of centers reported that they temporarily exceeded the number of training slots allocated to vocational areas in order to accommodate students whose first-choice trade was already operating at capacity.

Students who must enroll in their second- or third-choice trade are generally counseled to enroll in a related trade so what they learn can be applied to their first-choice vocation if and when they transfer into it. These students usually have the option of switching into their preferred trade when a slot becomes available. However, to ensure that students have benefited from the time spent in the alternative vocational area, a few centers required students to reach a step-off level in their initial trade before transferring to their first-choice trade. Also, while most centers give students on the waiting list preference when slots open, one center reported that each instructor decided whether

slots vacated by graduating students would be filled by new students or by students currently assigned to another trade. Most of the centers we visited reported that although students often have the option of changing into their first-choice trade when a slot opens, many choose to remain in their current program and complete the trade they started rather than switch trades.

In most centers, students may request a change in their vocational assignment, and procedures for handling these requests vary across centers. Some require that students remain in the current trade for some minimum time (such as 30 days) before they can change in order to discourage students from switching trades every time they encounter a difficulty either with the material or with the instructor. Centers may also require approval of the change by the current and prospective instructor, P/PEP approval, successful completion of step-off levels, and good standing in the current trade. The reasons most commonly cited for denying a request to change trades were performance in the current trade or attendance problems.

Table IV.5 presents data on the number of vocational trades in which terminees in Program Year 1996 participated. Approximately 17 percent of students are never assigned to a vocational trade. This group is composed almost entirely of students who leave a center within the first 30 to 45 days, at a point before they would normally be assigned to a trade. About two-thirds of students enroll in only one vocational training area during their stay in Job Corps. Just under 20 percent enroll in two areas, and less than one percent enroll in three. The group entering more than one vocation reflects both the switches from second- to first-choice vocations and midstream changes because the initial trade was unsatisfactory. A few centers also reported that students were encouraged to enroll in a second course after completing their first one as a way of ensuring that the center operated near capacity.

TABLE IV.5

ENROLLMENT IN DIFFERENT VOCATIONAL TRAINING AREAS AMONG TERMINEES IN PROGRAM YEAR 1996

Percentage of Students with	Overall	CCC	Private Residential	Private Significant Nonresidential
No Trade Assigned	17	19	16	16
1 Trade Assigned	65	67	63	69
2 Trades Assigned	18	14	20	15
3 Trades Assigned	0	0	0	0

SOURCE: Tabulations from SPAMIS.

NOTE: Program Year 1996 is the period July 1, 1996, to June 30, 1997.

G. SCHEDULING OF VOCATIONAL TRAINING

Students are scheduled for education and vocational training based on a system in which the mix of training is such that the student derives the maximum benefit consistent with his or her abilities. Most students are initially assigned to a 50 percent education and 50 percent vocational training schedule; however, exceptions are made based on education level and initial TABE scores. Students with a high school diploma or GED who meet minimum competencies in reading and math may be assigned to schedules with 20 to 30 percent education and 70 to 80 percent vocational training. Students with reading or English deficiencies may be assigned to 70 to 80 percent education and 20 to 30 percent vocational training.

The method of achieving the desired mix of academic and vocational classes varies across centers and trades. The most common methods are the "week on/week off" and the "half-day" schedules. In the former, students alternate one week of academic classes with one week of vocational training. In the latter, students spend either the morning or the afternoon in academic classes, with the rest of the day spent in vocational training. In many centers, the schedule may depend on the trade.

Data from the mail survey show that 39 percent of centers use a week on/week off schedule for all their trades, 8 percent use a half-day schedule for all their trades, and the remaining 53 percent use a mixed schedule. Among centers using the mixed approach, approximately half their trades were using a week on/week off schedule. Week on/week off schedules were much more widely used in the construction trades, while trades such as clerical occupations and health occupations were much more likely to be using half-day schedules.

Discussions with center staff highlighted several advantages and disadvantages of the two scheduling approaches. Vocational instructors in the construction trades (such as carpentry,

masonry, painting, plastering, and welding) generally prefer the week on/week off approach because of the extensive time students need to prepare for the training day. They also said this approach more closely approximated real-world work situations. On the other hand, nearly all academic instructors and some vocational instructors said that a full week away from academics or certain occupational training areas caused students to forget what they had learned. Several of the centers we visited had adopted the mixed scheduling approach as a way of balancing the advantages and disadvantages of the two methods. Despite the logistical difficulties in scheduling students and balancing workloads of academic instructors, they firmly believed the benefits to the students were worth the trouble.

H. VOCATIONAL SKILLS TRAINING (VST) PROJECTS

VST projects provide vocational instruction through actual construction or improvement of facilities on center or in the community. VST projects result in a finished product, but their primary focus is student learning. They are one of the ways Job Corps operationalizes its learning-by-doing instructional approach, and they are the primary means for training students in the construction trades. Many VST projects involve rehabilitation, construction, and maintenance of center facilities. VST projects may also include public service projects for nearby communities, projects related to the conservation of public lands, or projects for other Job Corps centers.

Each center director prepares an annual VST plan, which forms the basis for receiving funds to purchase materials and equipment for VST projects. For each proposed project, VST plans detail the cost factors, the appraised value of completed products, and the hours of training provided for students in different trades. The center director submits the VST plan to the Job Corps regional office for approval. While the regional office can generally approve a center's annual VST plans,

review and approval at the National Office is required for projects involving major rehabilitation or new construction and for those that request funds in excess of allowable limits.

All students enrolled in a vocational class that is working on a VST project participate under the direct supervision of the vocational instructor. In general, students' work assignments depend on their demonstrated skill levels. Until they receive further training, very new students are usually assigned tasks that do not require specific vocational skills (such as moving materials and cleaning up). Advanced students are often assigned to assist newer students or to serve as a type of foreman.

The training areas best suited to conducting VST projects are the building and construction trades: carpentry, painting, building and apartment maintenance, masonry, plastering, welding, plumbing, heavy equipment operations, electrical, glazing, landscaping, and floor laying/tile setting.

According to vocational training staff, successful VST projects have several characteristics. They involve students from several trades working together, they allow individual students to witness an entire project from start to finish, and they require a variety of tasks. Involving several trades more closely simulates real work experiences and requires that students understand how various other trades relate to their own. Also, the experience of working with people in related trades gives students valuable perspective. Projects that result in a completed product relatively quickly are more similar to a real work situation, and they give the students a sense of accomplishment. On the other hand, one center reported that a major construction project, which involved several VST projects and a number of outside contractors, took over 10 years to complete, and most students who worked on it never saw the finished product. Projects that teach students a variety of the skills in their trade were also considered successful. VST projects in which small repetitive tasks are done using the same skills are boring for the students and teach little. A commonly cited unsuccessful VST project involved routine painting of center facilities.

Center staff also identified several challenges to implementing successful VST projects. The most commonly cited obstacles were funding constraints, difficulties in identifying off-center VST projects that meet regulatory requirements for off-center activities, problems with obtaining materials, and the timeliness of required outside consultation. The funds allocated for each student training position for VST projects have not kept pace with inflation, and when delays in the projects occur, centers are often unable to purchase all the materials included in the original budget. Several centers also said that VST funding allocations do not take into account the fact that material costs differ significantly across the different vocational training areas. Off-center VST projects must be within a reasonable travel distance of the center and must not displace any current workers. For remotely located centers, the distance requirement is a problem, and in less remote settings, demonstrating that no displacement will occur is difficult. Many centers, particularly CCCs, report that the procurement process often leads to delays in obtaining necessary materials, which in turn creates further problems for outdoor projects that require good weather. Finally, the process of securing approval from architectural and engineering consultants, as required for major construction or renovation projects, is another commonly cited barrier to smooth implementation of VST projects. The red tape involved in obtaining the necessary approvals entails substantial paperwork for center staff and slows the projects considerably.

I. WORK EXPERIENCE PROGRAM (WEP)

WEP provides students with another avenue for applying the skills they have learned in a real workplace setting. At the time of our site visits, WEP was changing as Job Corps began to emphasize school-to-work activities. The findings reported here describe WEP before that emphasis.

Students are typically assigned to a WEP position once, for a period of up to 30 working days. They spend five hours per day for five days per week at their WEP assignment. Positions are unpaid.

Centers try to schedule WEP assignments in the six weeks after completion of a vocational training program and before the exit phase of the program when students prepare to leave the center. A few of the site visit centers imposed criteria in addition to completion of a vocational program for assignment in WEP. One required students to be advanced completers. Others required that students have a high school diploma or GED, receive positive evaluations from center staff, obtain a recommendation from their vocational instructor, and complete the exit phase of the World of Work (WOW) class. In an effort to enhance the value of later instruction, one center assigned students to WEP when they were 80 percent through their vocational training. If students fail to complete their initial WEP assignment, they are usually given one additional opportunity.

WEP assignments can be either on-center or, through arrangements with local employers, off-center. Approximately 85 percent of WEP assignments are off-center. Criteria used in establishing an off-center WEP assignment are designed to ensure that work assignment has training value and that students will be safe while working.

The use of WEP differed across centers. At an average center, about 70 percent of trades had WEP positions available. Yet about 5 percent of centers had no WEP slots, while almost 25 percent had WEP slots available for every trade they offered. This variation in the availability of WEP is closely related to the type and location of the center and trades offered. As one would expect, WEP assignments are most widely available at private centers with significant numbers of nonresidential students in urban areas and are least available at rural CCC centers. Certain trades, particularly clerical occupations, food service, health occupations, and retail sales, are more likely to have WEP assignments. Construction trades seldom have them.

Staff interviewed during the center visits identified several attributes of good WEP assignments. They provide experience in a wide variety of tasks, employers recognize that they are a training

activity, and they lead to job offers. In the least successful WEP assignments, employers view students as employees rather than as trainees and assign tasks with little training value. Also a problem were WEP assignments in which the activities involved exceeded students' level of skills. This occurred most often in the clerical occupations, where some programs did not adequately prepare students for the current computer systems and software that employers use. Off-center WEP assignments were considered more successful than on-center assignments, because off-center assignments often lead to good-paying jobs. WEP assignments with large national employers provide students the opportunity to take a job in their home area.

Centers identified several common barriers to finding good off-center WEP assignments. Transportation was cited most often, and many WEP assignments were limited to jobs that could be reached by public transportation. Limited transportation was especially troublesome for centers in remote areas and for WEP assignments with changing job locations (such as construction) or nonstandard hours (such as food service). Lack of time to identify and develop relationships with potential WEP sites, employer concerns about perceived low levels of competence of Job Corps students, and liability issues were also cited as major barriers to finding more good WEP assignments.

J. ADVANCED TRAINING (AT)

The purpose of AT is to provide advanced or specialized educational and vocational training, which is not available to students at all Job Corps centers, to students who have demonstrated the interest and potential to benefit from it. AT opportunities must focus on occupations with good placement potential and must include training that goes well beyond the skills taught in existing center training programs. In addition, AT programs are designed to enhance students' employment prospects substantially.

AT is offered through agreements with accredited vocational schools, community colleges, and other postsecondary educational institutions within commuting distance of Job Corps centers. Students must complete 180 days in Job Corps and have a GED or high school diploma before enrolling. In addition, almost all centers required students to complete a trade before enrolling in an AT program, and they often require students to complete a college preparation course, score above a minimum threshold on standardized college entrance exams, have a good disciplinary record, and complete an interview with center staff who grant approval. Program regulations generally limit enrollment in AT to two years.

Less than 1 percent of all Job Corps students participate in AT programs. According to the National Office, approximately 740 students transferred to such a program in 1996. Of these, 88 percent entered an advanced vocational program, while the remaining 12 percent entered advanced academic programs. Participation was highest among the clerical occupations, which account for over one-third of all such transfers. Advanced cooking and automotive repair technician were also quite prevalent, each accounting for an additional 10 percent of AT assignments.

AT was not available at many of the 23 site visit centers, and several of these centers identified barriers to providing it. One of the most commonly cited was transportation to off-center programs, most of which are located at colleges or other postsecondary educational institutions and are not easily accessible from the center. For example, one center with an off-center AT program required students to live in the college dormitories because of transportation problems. Other barriers included lack of openings in local colleges and difficulties matching the standard academic schedule with Job Corps' open-entry, open-exit program. Another barrier that several centers cited is the lack of adequate preparation of Job Corps students for college courses. One center reported the failure rate for students it sent to off-center AT programs was as high as 25 percent.

THIS PAGE INTENTIONALLY BLANK